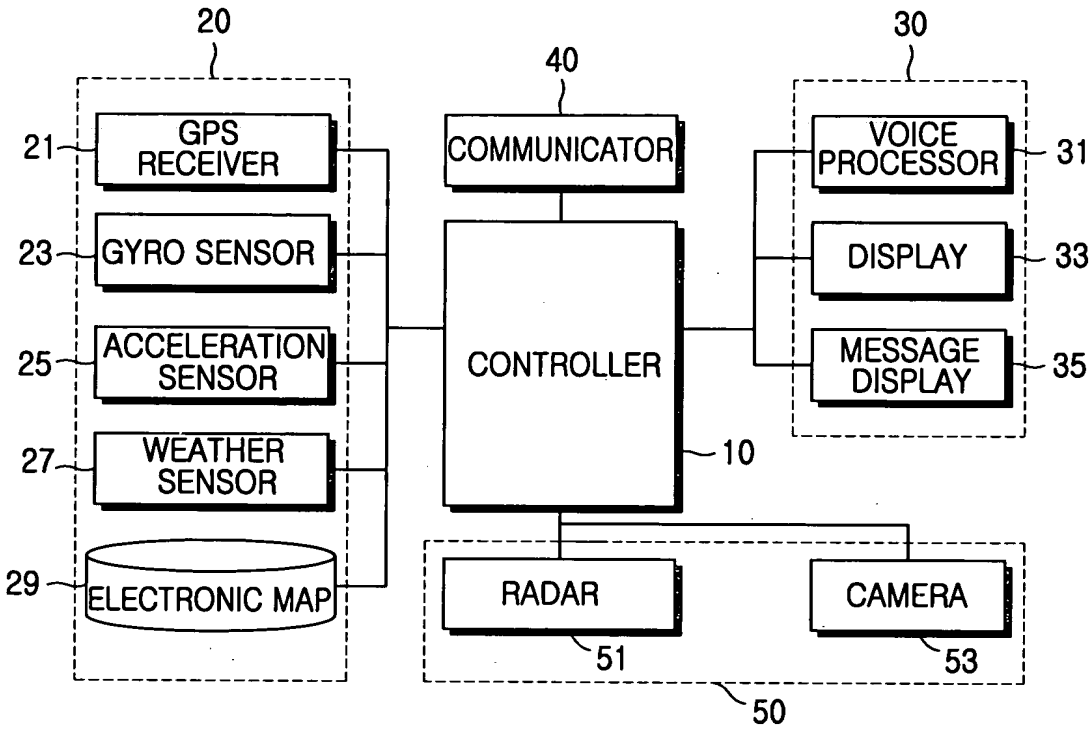

20
40
30
21
GPS RECEIVER
COMMUNICATOR
VOICE PROCESSOR
31
23
GYRO SENSOR
DISPLAY
33
25
ACCELERATION SENSOR
CONTROLLER
MESSAGE DISPLAY
35
27
WEATHER SENSOR
10
29
ELECTRONIC MAP
RADAR
CAMERA
51
53
50

FIG. 1

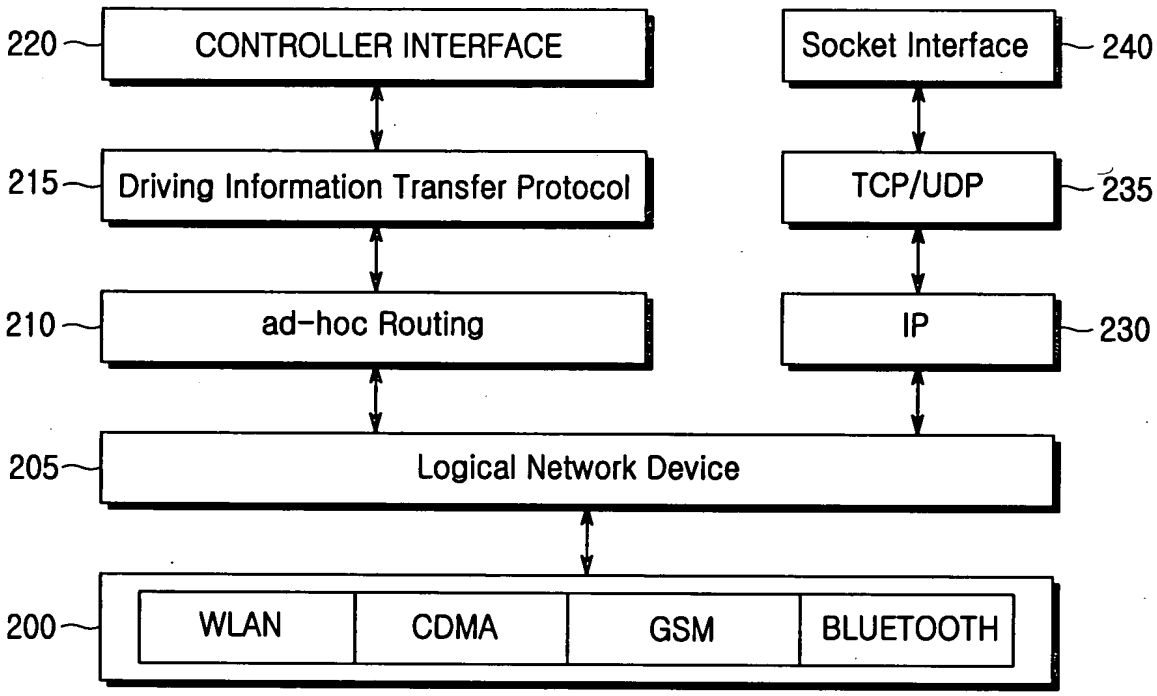

220
CONTROLLER INTERFACE
Socket Interface
240
215
Driving Information Transfer Protocol
TCP/UDP
235
210
ad-hoc Routing
IP
230
205
Logical Network Device
200
WLAN
CDMA
GSM
BLUETOOTH

FIG.2

Routing Type (300)	Router ID (305)	Routing Direction (315)	Routing Speed (320)	Routing Area(X) (325)	Routing Area(Y) (330)
Destination ID (335)	Destination Position (340)	Destination Speed (345)	Destination Direction (350)	Available Time (355)	Source ID (360)
Source Position (365)	Source Speed (370)	Source Direction (375)	Send Time (380)	Sequence Number (385)	Body Size (390)

FIG.3

Routing Type (300) Broadcasting	Router ID(305) * Or 0	Routing Direction(315) Null	Routing Speed(320) Null	Routing Area(X)(325) Null	Routing Area(Y)(330) Null
Destination ID(335) * Or 0	Destination Position(340) X_{600}, Y_{600}	Destination Speed(345) Null	Destination Direction(350) Null	Available Time(355) 60	Source ID(360) 600
Source Position(365) X_{600}, Y_{600}	Source Speed(370) 70	Source Direction(375) E	Send Time(380) 15:20:30	Sequence Number(385) 120	Body Size(390) 10

FIG.4

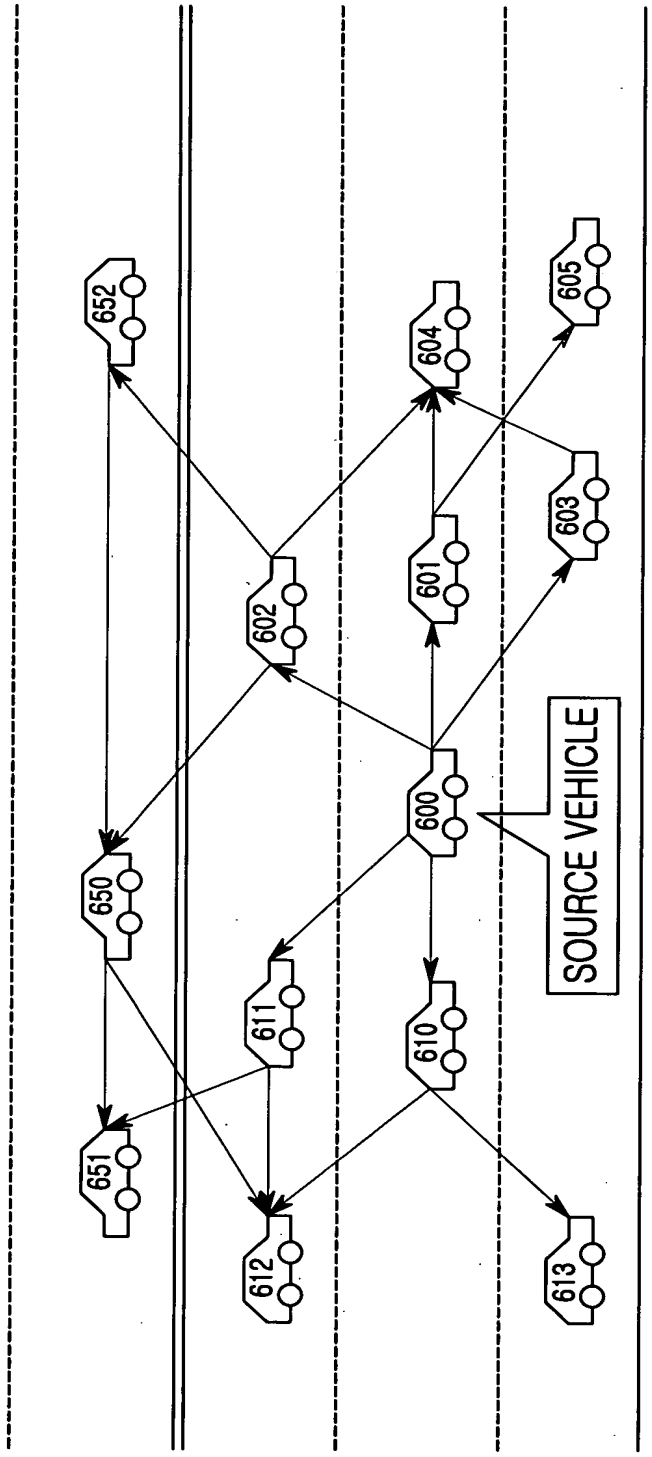

652
604
605
602
601
603
600
SOURCE VEHICLE
650
611
610
651
612
613

FIG.5

Routing Type (300) Broadcasting	Router ID(305) * Or 0	Routing Direction(315) E	Routing Speed(320) Null	Routing Area(X)(325) 11:1000	Routing Area(Y)(330) 11:15
Destination ID(335) * Or 0	Destination Position(340) X_{700}, Y_{700}	Destination Speed(345) Null	Destination Direction(350) E	Available Time(355) 60	Source ID(360) 700
Source Position(365) X_{700}, Y_{700}	Source Speed(370) 70	Source Direction(375) E	Send Time(380) 15:20:30	Sequence Number(385) 122	Body Size(390) 10

FIG.6

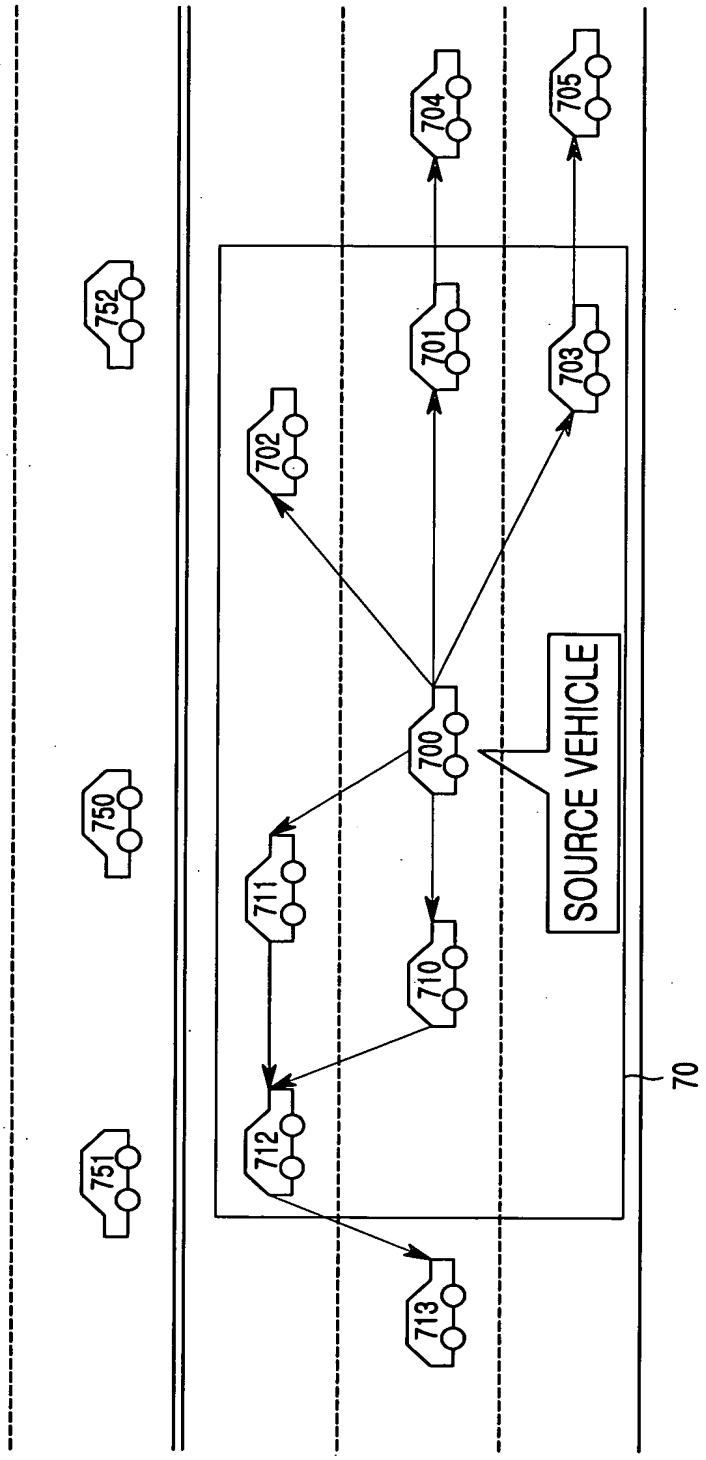

752
750
751
702
701
704
705
703
700
711
710
712
713
SOURCE VEHICLE
70

FIG. 7

Routing Type (300) Forward	Router ID(305) 810	Routing Direction(315) Null	Routing Speed(320) Null	Routing Area(X)(325) Null	Routing Area(Y)(330) Null
Destination ID(335) 813	Destination Position(340) X_{813}, Y_{813}	Destination Speed(345) 65	Destination Direction(350) E	Available Time(355) 60	Source ID(360) 800
Source Position(365) X_{800}, Y_{800}	Source Speed(370) 70	Source Direction(375) E	Send Time(380) 15:20:40	Sequence Number(385) 126	Body Size(390) 10

FIG.8A

Routing Type (300) Forward	Router ID(305) 811	Routing Direction(315) Null	Routing Speed(320) Null	Routing Area(X)(325) Null	Routing Area(Y)(330) Null
Destination ID(335) 813	Destination Position(340) X_{813}, Y_{813}	Destination Speed(345) 65	Destination Direction(350) E	Available Time(355) 60	Source ID(360) 800
Source Position(365) X_{800}, Y_{800}	Source Speed(370) 70	Source Direction(375) E	Send Time(380) 15:20:40	Sequence Number(385) 126	Body Size(390) 10

FIG.8B

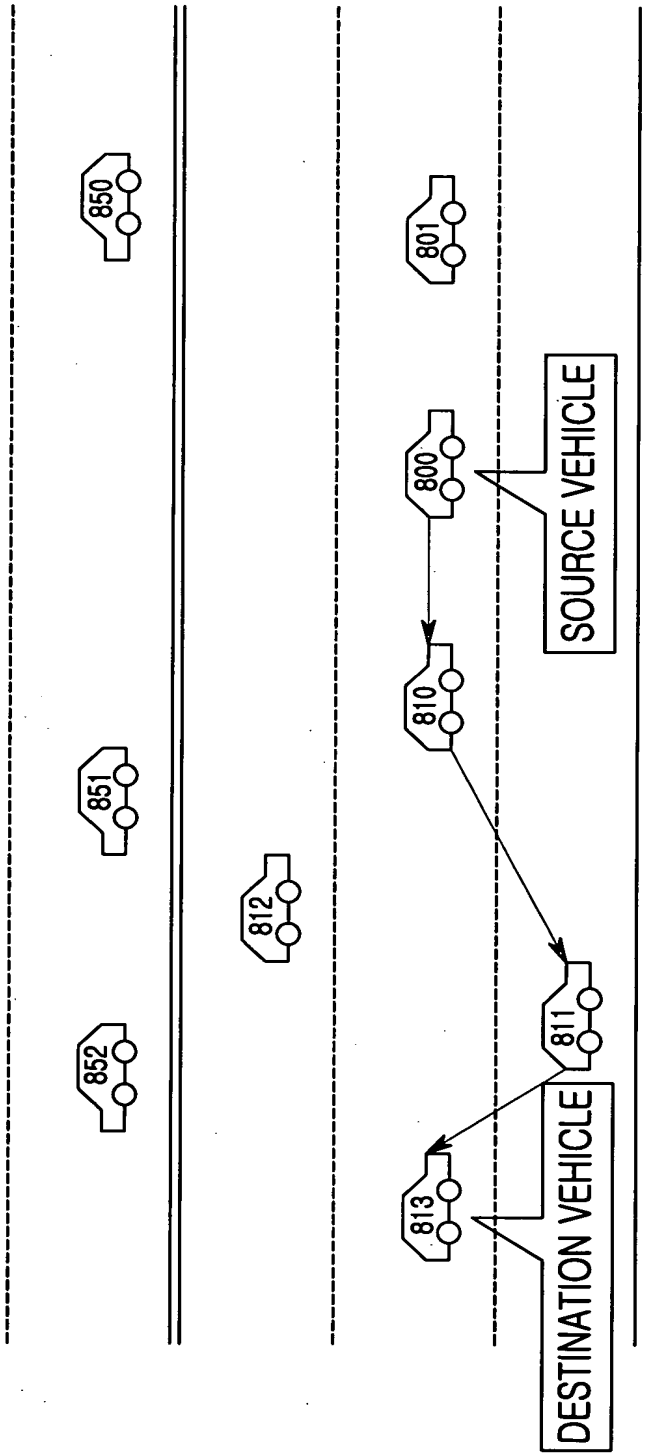

850
851
852
812
801
800
810
811
813
SOURCE VEHICLE
DESTINATION VEHICLE

FIG.9

Routing Type(300) Flooding	Router ID(305) 911	Routing Direction(315) E	Routing Speed(320) Null	Routing Area(X)(325) Null	Routing Area(Y)(330) Null
Destination ID(335) 916	Destination Position(340) X_{916}, Y_{916}	Destination Speed(345) 70	Destination Direction(350) E	Available Time(355) 60	Source ID(360) 900
Source Position(365) X_{900}, Y_{900}	Source Speed(370) 70	Source Direction(375) E	Send Time(380) 15:25:40	Sequence Number(385) 128	Body Size(390) 10

FIG. 10A

Routing Type(300) Flooding	Router ID(305) 912	Routing Direction(315) E	Routing Speed(320) Null	Routing Area(X)(325) Null	Routing Area(Y)(330) Null
Destination ID(335) 916	Destination Position(340) X_{916}, Y_{916}	Destination Speed(345) 70	Destination Direction(350) E	Available Time(355) 60	Source ID(360) 900
Source Position(365) X_{900}, Y_{900}	Source Speed(370) 70	Source Direction(375) E	Send Time(380) 15:25:40	Sequence Number(385) 128	Body Size(390) 10

FIG. 10B

Routing Type(300) Flooding	Router ID(305) 914	Routing Direction(315) E	Routing Speed(320) Null	Routing Area(X)(325) Null	Routing Area(Y)(330) Null
Destination ID(335) 916	Destination Position(340) X_{916}, Y_{916}	Destination Speed(345) 70	Destination Direction(350) E	Available Time(355) 60	Source ID(360) 900
Source Position(365) X_{900}, Y_{900}	Source Speed(370) 70	Source Direction(375) E	Send Time(380) 15:25:40	Sequence Number(385) 128	Body Size(390) 10

FIG. 10C

Routing Type(300) Flooding	Router ID(305) 913	Routing Direction(315) E	Routing Speed(320) Null	Routing Area(X)(325) Null	Routing Area(Y)(330) Null
Destination ID(335) 916	Destination Position(340) X_{916}, Y_{916}	Destination Speed(345) 70	Destination Direction(350) E	Available Time(355) 60	Source ID(360) 900
Source Position(365) X_{900}, Y_{900}	Source Speed(370) 70	Source Direction(375) E	Send Time(380) 15:25:40	Sequence Number(385) 128	Body Size(390) 10

FIG. 10D

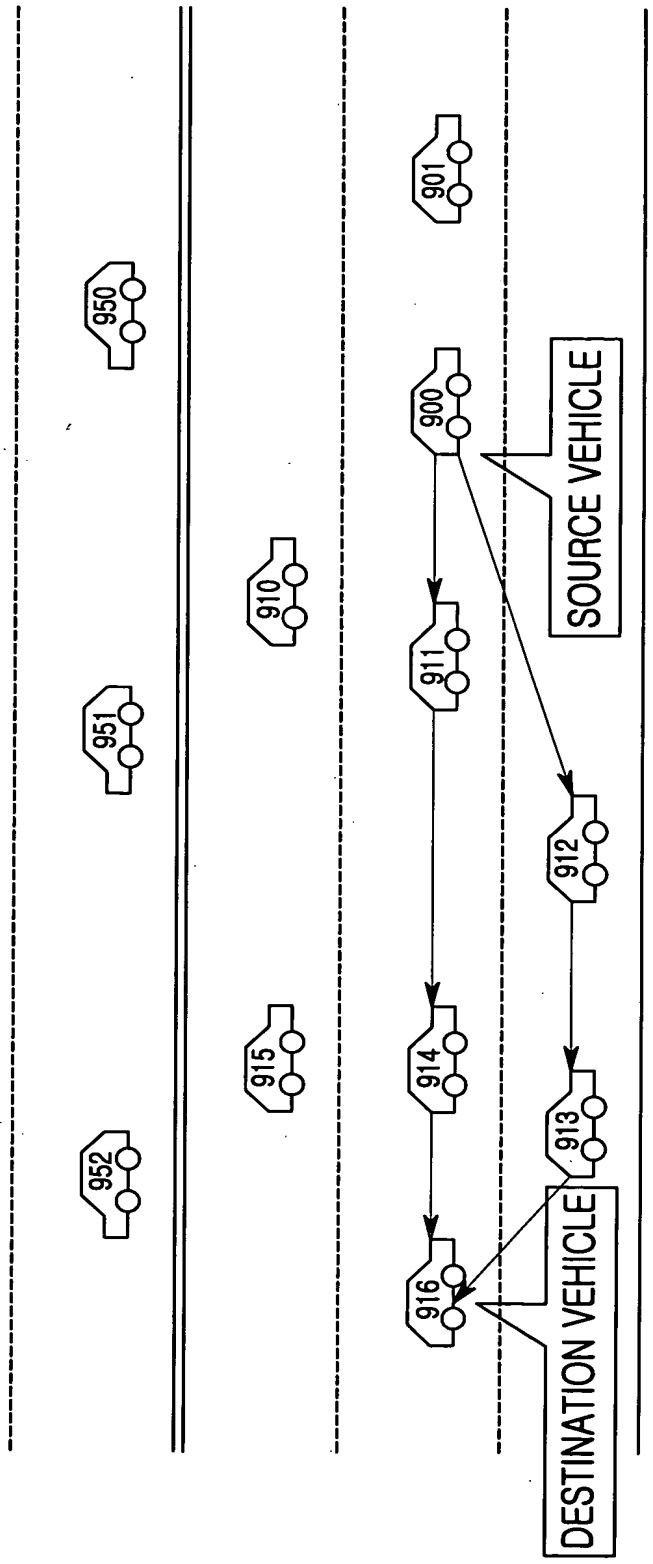
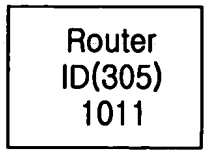
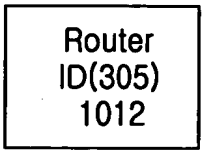

950
951
952
910
915
901
900
911
914
916
912
913
SOURCE VEHICLE
DESTINATION VEHICLE

FIG. 11



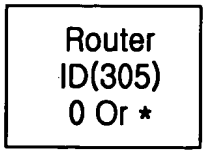
SET 1010

FIG. 12B



SET 1011

FIG. 12C



SET 1012

FIG. 12D

Routing Type (300)Forward+ Broacasting	Router ID(305) 1010	Routing Direction(315) E	Routing Speed(320) Null	Routing Area(X)(325) 01:500	Routing Area(Y)(330) 01:15	
Destination ID(335) * Or 0	Destination Position(340) X_d , Y_d	Destination Speed(345) Null	Destination Direction(350) E	Available Time(355) 60	Source ID(360) 1000	
Source Position(365) X_{1000}, Y_{1000}	Source Speed(370) 70	Source Direction(375) E	Send Time(380) 15:50:40	Sequence Number(385) 130	Body Size(390) 10	

FIG. 12A

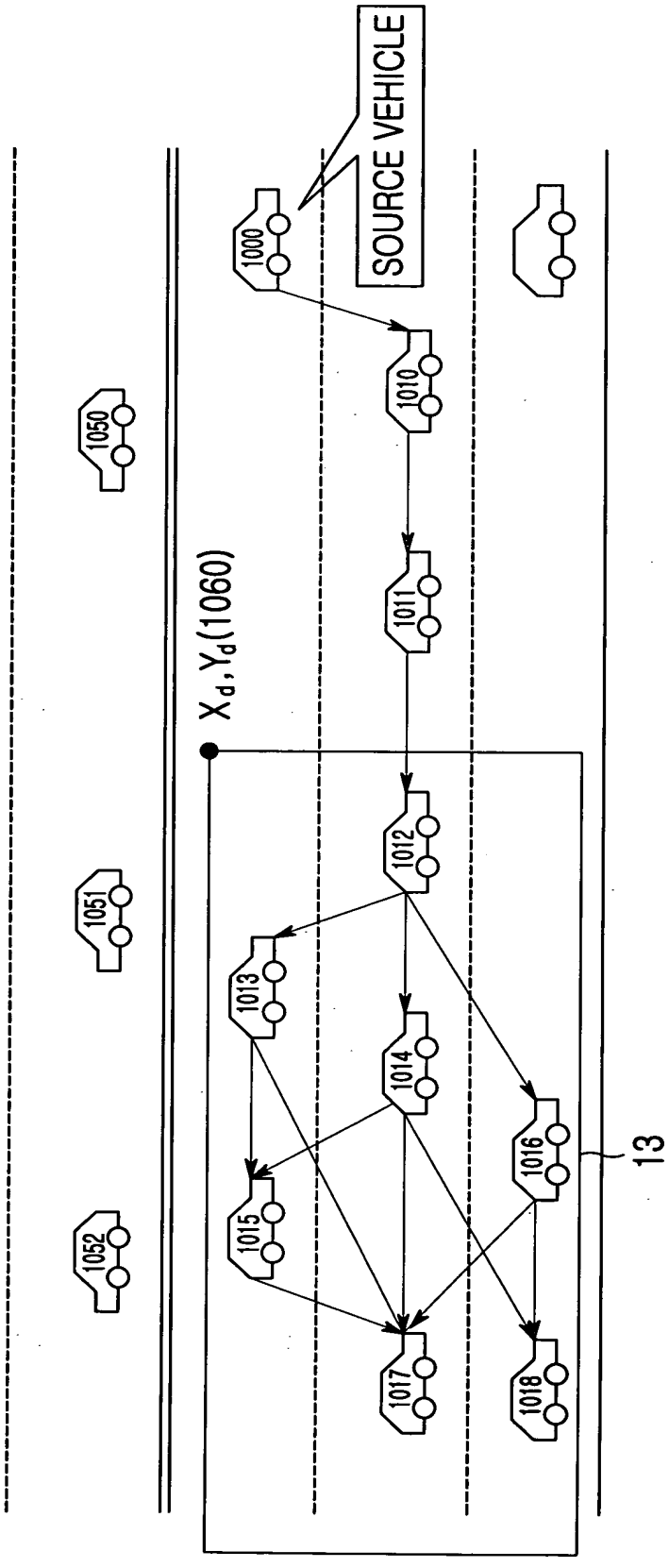

SOURCE VEHICLE
1000
1010
1011
1012
1013
1014
1015
1016
1017
1018
1050
1051
1052
X_d, Y_d(1060)
13

FIG. 13

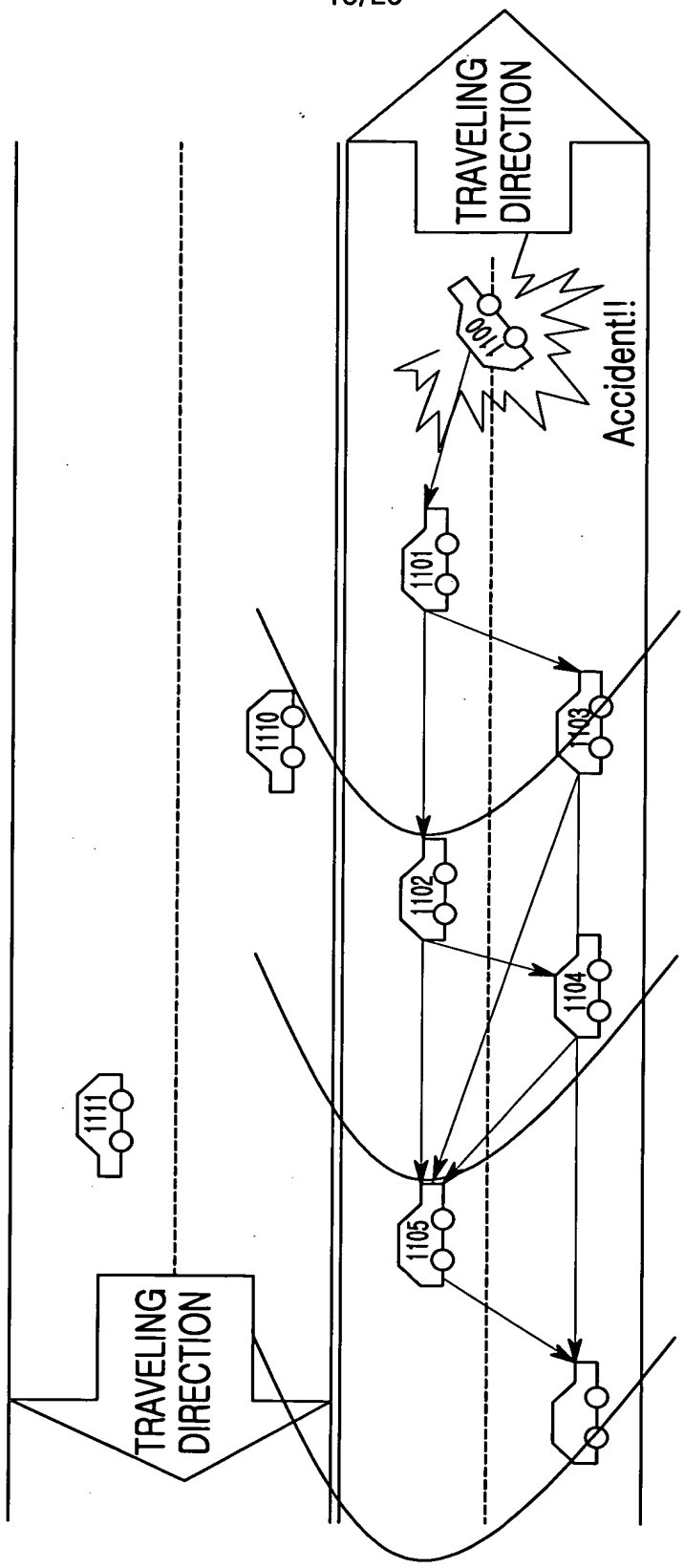

TRAVELING DIRECTION
Accident!!
1001
1101
1110
1103
1102
1104
1111
1105
TRAVELING DIRECTION

FIG. 14

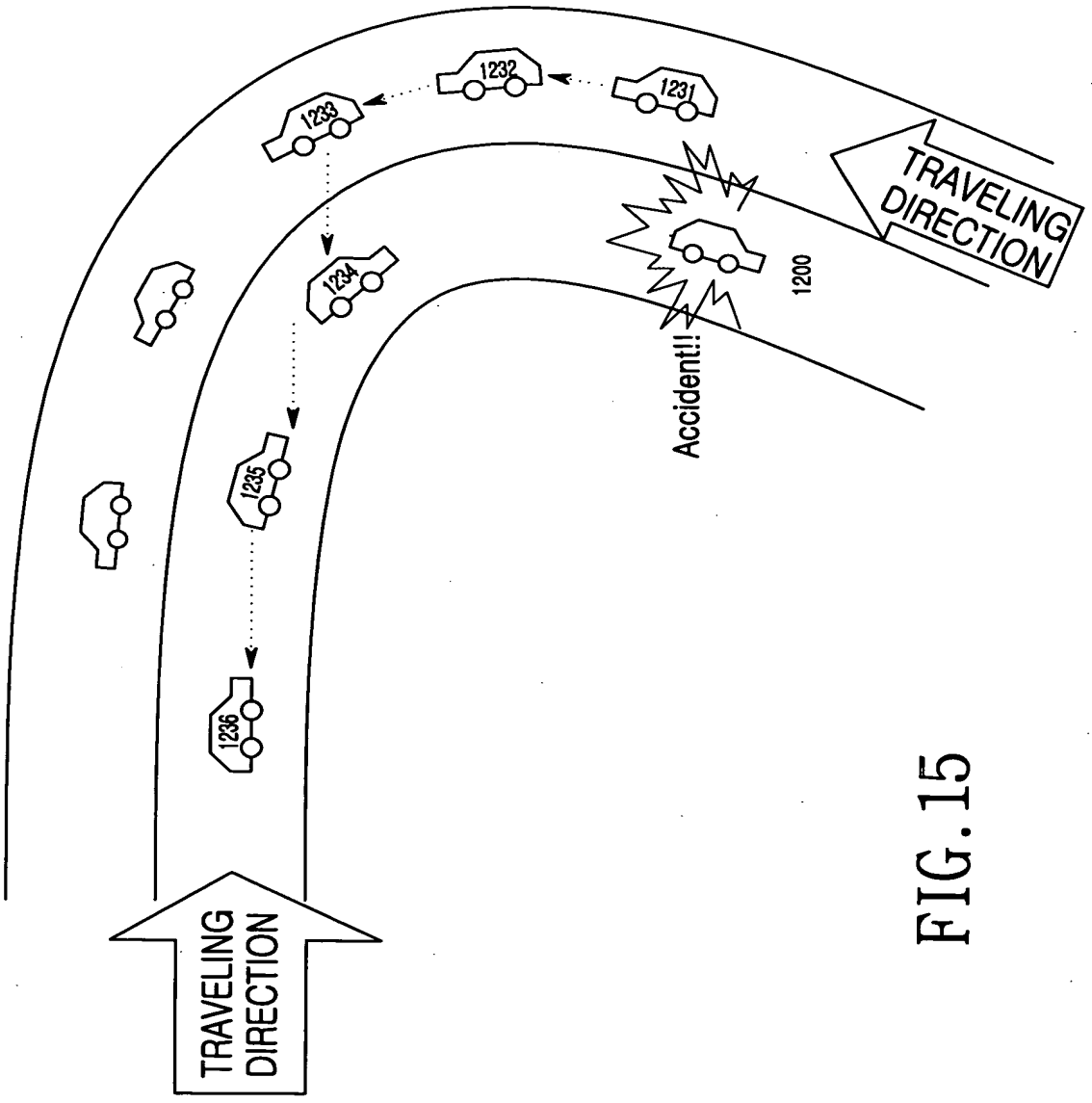

1232
1231
1233
1234
1235
1236
1200
Accident!!
TRAVELING DIRECTION
TRAVELING DIRECTION

FIG. 15

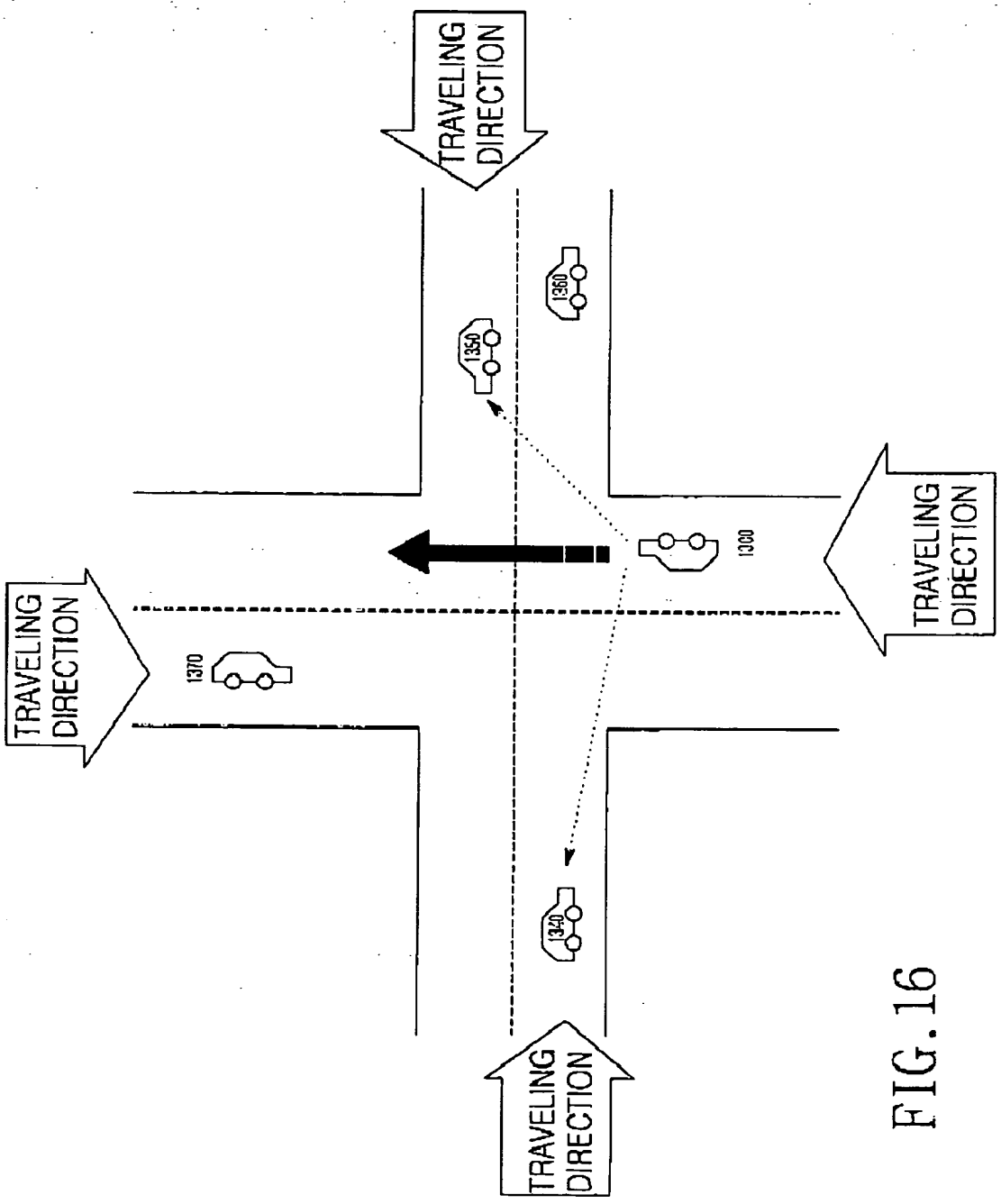

TRAVELING DIRECTION
TRAVELING DIRECTION
TRAVELING DIRECTION
TRAVELING DIRECTION
1300
1310
1320
1330
1340
1350
1360
1370

FIG. 16

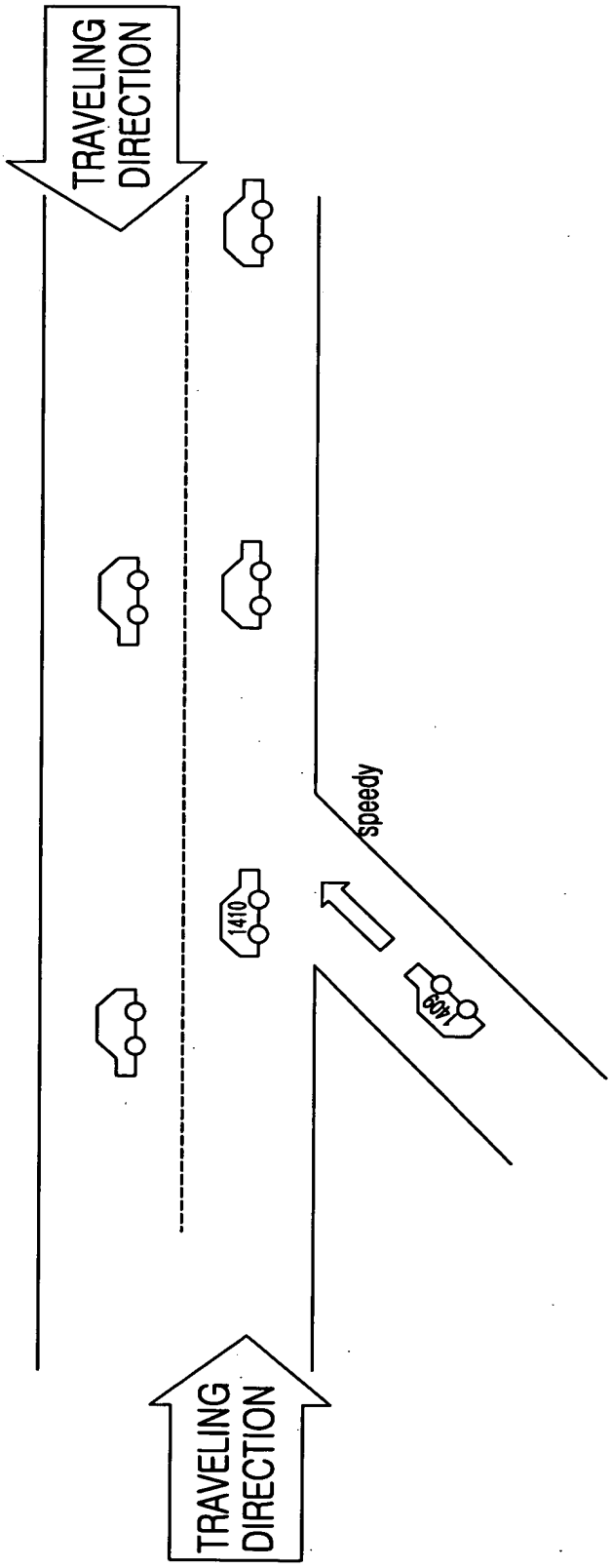

TRAVELING DIRECTION
Speedy
1410
1410
TRAVELING DIRECTION

FIG. 17

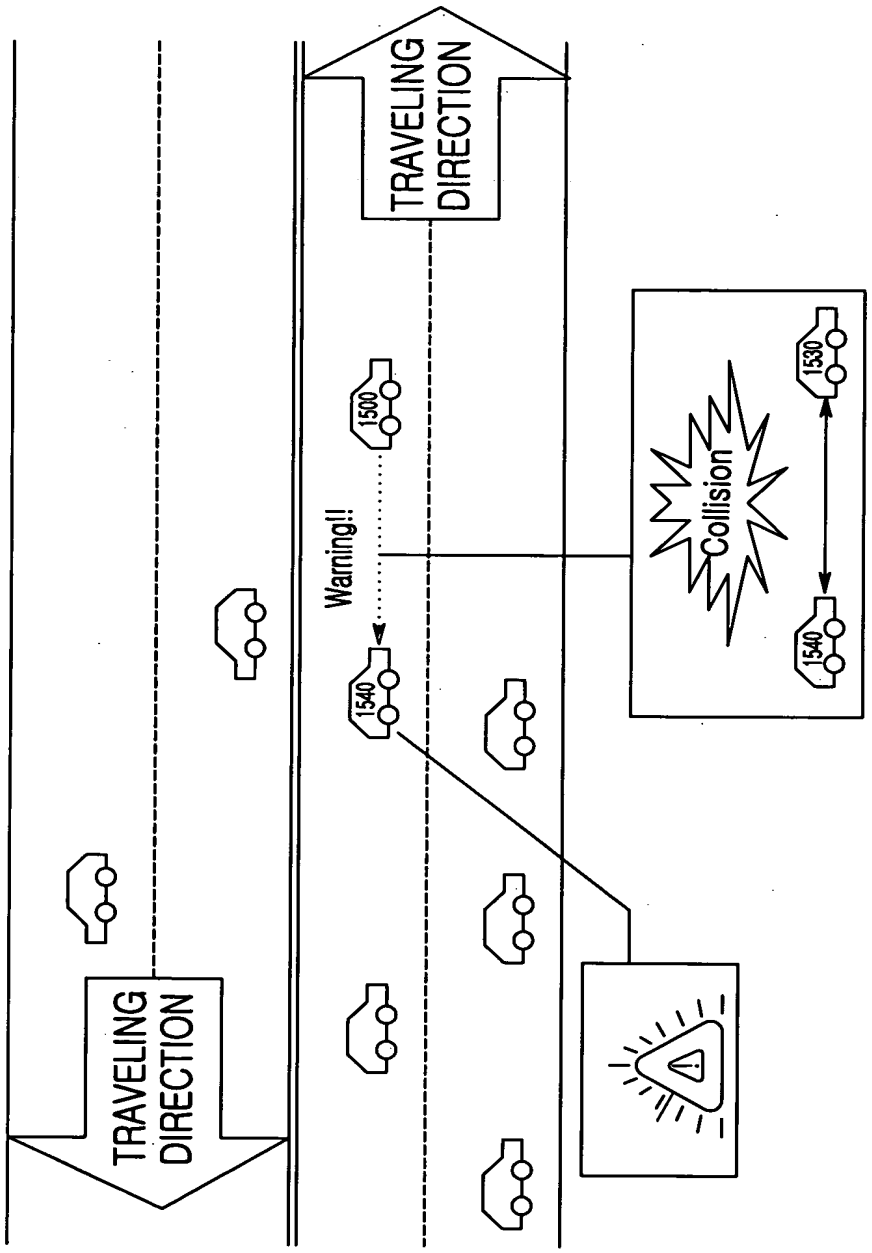

TRAVELING DIRECTION
TRAVELING DIRECTION
1500
Warning!!
1540
Collision
1530
1540

FIG. 18

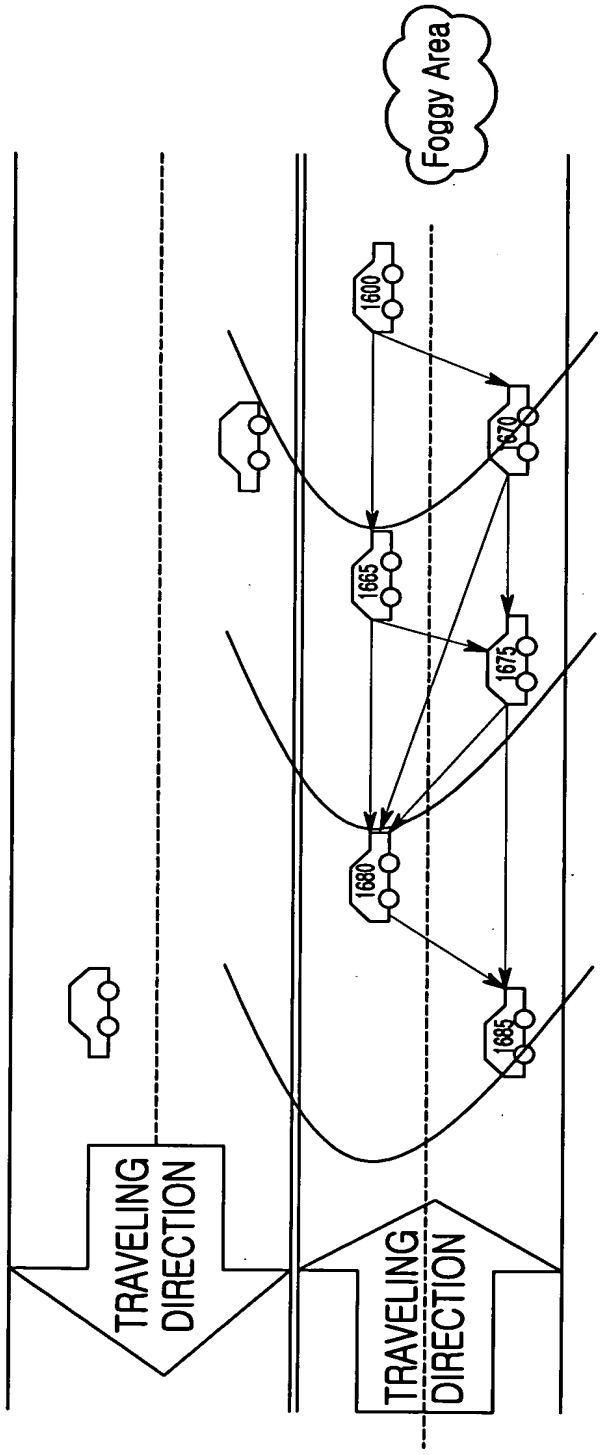

Foggy Area
1600
1670
1665
1675
1680
1685
TRAVELING DIRECTION
TRAVELING DIRECTION

FIG.19